MAR/89
APR

ZX-Appeal

vancouver sinclair users group

next meeting:

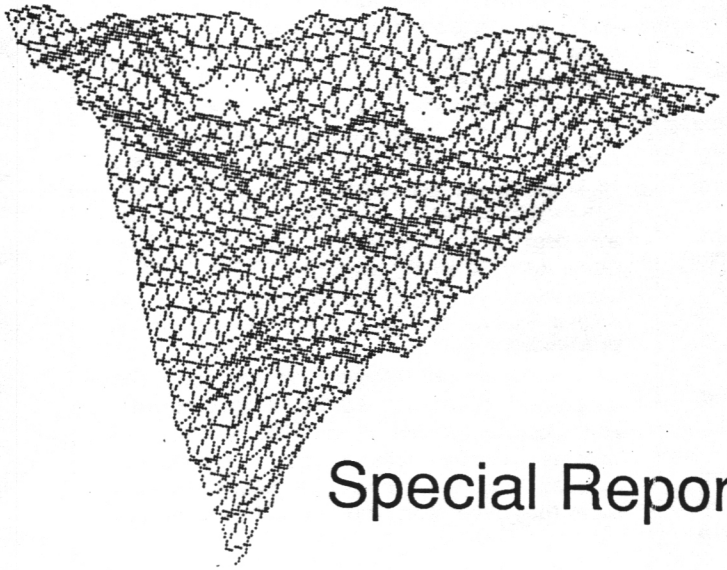
KILLARNY COMMUNITY CENTRE
6260 KILLARNY STREET
VANCOUVER

FRIDAY; 7:00PM

APRIL 14, 1989

ZXAppeal is a monthly newsletter put out by the Vancouver Sinclair Users Group. For more information on the group and ZXAppeal see the backcover.

inside



Special Report: *FRACTALS*

THIS ISSUE.....

This month is a bit of a catch-up month as there wasn't a newsletter last month due to the lack of submissions so we include the minutes of the last three meetings in this issue - should help you out-of-towners with what's been happening at the meetings lately. We start off with a message and reminder from Gerd that next meeting is the Annual Meeting where we elect new officers or elect the same ones for that matter. REMEMBER: ALL THOSE NOT ATTENDING THE MEETING ARE AUTOMATICALLY NOMINATED FOR A POSITION!!! Fred N. drops by with a nice little hardware project for the ZX81 - a proportional joystick interface! Wilf submitted an article about a few of his favourite housekeeping programs for the ZX81 and includes the program listings. Gerd has made up a list of the titles in the ZX81 library which is reprinted within. An addition to our ZX81 library is a Fractal landscape generator by Fred N., which automatically means it's super, and so we reprint a timely article from Computing Canada elaborating a little on this fascinating topic. We've tried to round out the issue with a choice selection of reprints from our exchanging newsletters.

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WANTED: NEWSLETTER PUBLISHER

I enjoy putting the newsletter together but I could use a little help. Up until now I've done the entire operation alone: article selection, article preparation, article retyping if necessary, cut&paste, layout, photocopying, collating, folding, stuffing, glueing flap down, sticking on stamp, printing labels, sticking on labels, and chucking in the mail box. I'm getting pretty efficient at all of this but that doesn't lessen the fact that it does take some time and energy to accomplish. At the last meeting I announced that I wanted to pass on the editorship after completing two more issues. Gerd and I have discussed this topic and have come to the agreement that if someone else will take on the "Publisher" role, I'll keep on being the "Editor". Being "Publisher" means taking the stack of photocopied pages and fold,stuff,glue,lick,etc. "I make it, you mail it!!" Any takers?

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BITS & PIECES.....

...remember the PC8300, the "Chinese ZX81"? All of you who didn't grab one of these little green and cream beauties from the States can now get one here in ol' Ka Na Da. Price is $29.95 plus $3.00 shipping to Princess Auto Ltd., P.O. Box 1005, 475 Panet Rd., Winnipeg, MB., R3C 2W7. Phone is 1-800-665-8685 if you want to put it on your Visa or M/Card.

...as mentioned above we've heard from Fred N. Fred reports he is back in Nelson and is cheerfully and, more importantly, gainfully employed fixing stereos, VCRs, satellite dishes, and all manner of other doodahs electronic, I'm sure. His latest programming masterpiece is for the ZX81, of course, and generates Fractal landscapes. Fred has donated a copy of this program to the club library but be advised that as this program takes the ZX81 to its limits so must you. A 64K RAMPAK as well as the 8K SRAM or equivalent must be in place on the ZX81. Fred also reported the next hardware project he was considering was to mount a ZX81 to his motorcycle to keep track of all the mechanical operations of the bike while going to Ottawa this summer. Just think what Fred could accomplish if he had a "real" computer!!

...the "grapevine" reports that Uncle Clive has married. This woman I would like to meet. She'd have to be mighty interesting to keep Clive's attention.

...the "grapevine" also reports rumours that a desktop computer from Cambridge Computers is on the way.

...speaking of toys from Cambridge, did anyone turn to page 172 in the April PLAYBOY?

...Frank Davis et al who brought you the successful Mid-West TS Fests in Cincinatti and Indianapolis are considering whether to consider whether doing so again this coming Fall, so says the Indiana T/S newsletter. I'm sure they'll be watching the outcome of the

upcoming CATS CapitolFest.

...Zebra Systems is said to be moving very quickly away from T/S oriented goodies. Apparently the CapitolFest will see a total sellout of their remaining T/S stock as they move into the RS CoCo world. If there was a particular software title or hardware item you've been meaning to pick up, DO IT NOW!! I've heard that Zebra won't accept any order for less than $25 so you better hurry.

...Tim Woods where are you??? No one has been able to get in touch with Tim for quite a while. The Time Designs telephone is answered by a machine but messages aren't returned. We've heard about the various critical events that have impacted on the Woods family: the reported passing of Tim's dad must have understandably taken Tim's attention away from these actually quite frivilous matters but at the same time Tim must eventually let those who are patiently waiting to hear from him know what he has in mind for the future of Time Designs.

...we had NOVA 1000, multitasking for the ZX81. Now Lloyd Dreger of the SMUG group has developed "true multi-tasking for the 2068 a la the QL", to guote Dr.Dreger. The program to accomplish this was printed in the SMUG newsletter but under notice of copyright. We'll be getting in touch with the SMUG group to ask if we can reprint the program for our members to try.

...MS-DOS emulation on the QL is now a fact. RMG Enterprises recently sent out a flyer describing all the wonderful things you would be able to accomplish with your QL if you wanted to run MS-DOS without an MS-DOS machine.

...remember this word "SAM". You're going to be hearing alot about this word in the near future. The following is taken from the "Sinclair Scene" section of the British Computer Shopper. "SAM is a low-cost micro from Miles Gordon Technology with a modern specification - 256K of RAM, expandable to 512K, 64 colours, 85 column text or 512 X 192 dot graphics, and optional 780K 3.5" disk drives. From our tests it seems that SAM is actually MORE compatible with established Spectrum programs and add-ons than Amstrad's 'genuine' Spectrum Plus Three. Designer Bruce Gordon has five years experience building third-party Spectrum add-ons, so he knows the ins and outs of Spectrum compatibility. For instance, SAM recognises IN 10495, the attribute port which is used by many programs but not implemented in the Spectrum Plus 3 or Plus 2A. The SAM processor is a Z808 running at 6MHz - 70 per cent faster than the Spectrum's 3.5 MHz Z80A. Most Spectrum games run at the normal speed as their code tends to be synchronised to the display frame time but utilities and languages run noticeably faster on SAM. The original projected price was 99 pounds but that has been overtaken by chip price changes. The new prediction is £199 for the disk version and around £140 for the cassette version. Both come with 256K of memory but can be expanded to 512K by plugging in two extra chips into pre-installed sockets inside. The SAM ROM is dramatically different from Sinclair's. It's twice as long - 32K, in two 16K banks. The BASIC interpreter is derived from the Spectrum Product BetaBASIC. SAM runs existing Spectrum BASIC programs and the best features of the ZX BASIC remain. SAM can load and run ZX BASIC because it detects the old file format and re-tokenises the entire program in a brief pause after loading and before running. You can save your ZX BASIC program back but it won't run on a Spectrum - in this case compatibility is a one-way path. SAM has a pallette of 64 display colours, like IBM's EGA colour display. It supports four graphics modes compared to the Spectrum's one.(shades of the 2068...ed) SAM has flexible memory paging in 16K chunks. You can divide RAM into several sections, each of which looks like a separate computer. Users can swap between displays or program areas at any time, so - for instance- a 256K SAM could arrange its memory as five 48K sections each with a different program inside! You can load several machine-code programs at a time even if each one expects total control of a 48K computer. You could swap programs by pressing a special key that calls up SAM's pallette and memory manager. The sound chip is the only obscure part of SAM - it's a Philips SA-1099, programmed much like the AY-3-8912 in the Spectrum 128 but

more sophisticated internally. The SA-1099 has six stereo channels with volume, envelope and pitch control in steps of 256 tones per octave. SAM also supports the single-bit sound output of the 48K Spectrum for compatibility with old programs. Mono sound comes through the TV speaker and there's a stereo socket for 'Walkman' headphones at the side of the computer. The other sockets around the edge of the machine let you plug in a joy-stick, mouse, track-ball, TV, RGB monitor, MIDI musical instuments, cassete recorder, Centronics printer, and light-pen. There's even a pair of 'net-work' sockets which let up to 64 computers share peripherals via a two-wire local link. It is compatible with the QL but in practice the two are not very happy together. There is also an expansion socket, similar to the Spectrum edge-connector but with a proper plug. SAMs should be hitting the market in May. We'll keep you posted."

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NEW MEMBERS:

Sean Roe, Copperas Cove, Texas,
Larry Anderson, Davenport, Iowa
Lionel Keeping, Corner Brook, Nfld

RENEWING MEMBERS:

Bill Rutter, Dan Pinko,
Hugh Polley, Robert Shade

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MESSAGE FROM YOUR PRESIDENT

Another year has gone by since the last one, wherefore it is time to announce the

1989 ANNUAL GENERERAL MEETING

to be held on April 14,1989.

AGENDA

Call to Order
President's Report
Vice President's Report
Treasurer's Report
ELECTIONS OF OFFICERS
Editor's Report
Hardware SIG Report
Librarians' Reports
Other Business

On this occasion I would like to paraphrase a well known quotation from the Inaugural Speech of the late President Kennedy:"Do not ask what your club can do for you - ask what you can do for your club !" Please take it to heart, participate in the next A.G.M. and consider holding office (it's only for a year, i.e. my job is up for grabs). Since due to Rod's thrifty management our kitty is in such a good shape, I suggest that people who hold club office be exempt from dues for the term of their office as an added incentive. Without more active participation I fear our club is in danger of dwindling into oblivion.
A new job has been created:

NEWSLETTER PUBLISHER

Actually, it has always existed - Rod has edited and published our Newsletter - and is now made available to the membership because 3 jobs are really a bit too much to ask one person to handle, don't you think? Rod has volunteered to carry on as EDITOR and TREASURER.

Rod and I will attend the CAPITAL FEST to be held in Washington, D.C. - won't you join us?

I finally figured out how to use the data base on the QL resulting in the ZX81 & TS1000/1500 Book Library Inventory List published in this issue. I hope to find time to get together soon with Harry Slot, our new ZX81 & TS1000/1500 Tape Librarian, to do the same for the Tape Library.
An event billed as the

NORTHWEST'S LARGEST COMPUTER SWAP MEET

will take place Sat., Apr.22 from 9 a.m. to 5 p.m. at 525 - 4th Ave. N. in Kent (Kent Commons 15,000- square-foot Exhibition Hall) located between Seattle and Tacoma. All makes and models of periferals, software, and hardware, plus services and technical assistance will be featured. Admission is $3 for adults and $1 for juniors (12-15). Children under 11 will be admitted free. For more information call (206) 874-8711 (24 hours).

Gerd Breunung

January 13/89 Minutes
==========
-your humble scribe

Although you may not number me among the triskaidekaphobic masses, to me this was an ODD meeting. Maybe it was the flu, which has been rampant these last two months and which was definitely affecting Gerd. We sort of had to "remind" him to get on with the next topic a few times. The flu, and not having a featured speaker then, not Freddy's Friday.

The meeting was opened by Glenn Read at 19:35 after somewhat of a delay because Gerd had not shown up. The general consensus was that either the flu or the snow had stopped him. Rod Humphreys reported, as editor, that the January newsletter was a little fatter but that the next one would be normal. Rod also mentioned many memberships were currently due. About this time the church choir practice next door started singing. Reporting as Treasurer, Rod mentioned we have about $1150.00 despite his Oz-land trip. The Australian group was "somewhat diminished" to use his words. He also came back raving about the Spectrum Desktop Publishing program 'Wordmaster'. On the way to Australia he stopped over in Hong Kong and observed the combination of ostentatious wealth and utter poverty, finding it staggering. There are lots of Amstrads down under.

The 2068 & 1000 librarians were both absent. Rod mentioned receiving a letter from Fred Nachbaur in which Fred mentioned he enjoyed Lotus 123. Hmmm. Mention was made of this scribes tardiness of late, and Rusty Townsend grabbed the occasion to distribute free Round-Tu-Its to all who would have one.

Gerd arrived at 19:58. He started with his President's report, which consisted of "I've got the flu."

The hardware group are meeting, as usual, at Harry's. They are getting into hi-res displays. Rod asked on behalf of an inquiring out-of-towner "what was the status of the 8300 colour pak" and was told there was no answer yet. The Eprom burner project is on a back burner.

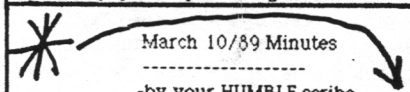
Bob Dennison reported that K.E.M. is closed as far as sales of parts is concerned.

There was a discussion of the difficulties involved in converting a 'Telidon' monitor [out-of-towners please note:- that's a type of videotext system tried out in B.C. a couple of years ago]. Harvey donated some video tapes he received from Rod Gowen, for being a guest speaker at the Portland Fest last summer, to the club video library.

The general question of sponsoring the next Sinclair Fest was raised. Someone suggested maybe a few beers in the park instead?

Guido Vieira is attempting to put together a BBS package. Mention was made of the fact that Larry Kenny was working on a 2068 BBS.

Ken A. told a bizarre tale about a fellow teacher being upset when a TS1000 told him to F/0. At about this point the meeting was becoming seriously unravelled. There was an execrable exploding dog story and Louis started talking about scratch & sniff printer paper. I quit taking notes.



March 10/89 Minutes

-by your HUMBLE scribe

At 19:20, Gerd opened the meeting with 14 intrepid spirits present. Because he was leaving early, Gerd promptly handed the meeting over to V/Prez Glenn Read.

Glenn spoke of his recent visit to a West Coast Computer Society meeting, then mentioned that Karl Brown had been made the head of the VVI(City College) electronics department, and finished up by passing on some news about some new 16 megabit DRAM from Toshiba.

Rod Humphreys did a quick treasurer's report 'cause he too was leaving early. [Hmmm. The amazing disappearing executive...] Somebody hollered out "Think of a number" and Rod said "well we have about $1100 in ye olde credite union". Memberships are about the same number according to Rod.

In his Editor's report, Rod dropped the bomb. He will do two more issues of ZXAppeal and then resign. There was not enough material for a newsletter issue this month.

It was mentioned that Time Designs magazine had a bit of trouble over the Xmas season with bulk mailing rates and the US Postal Service. Apparently if US bulk mail is not processed by a certain date, they are entitled to trash it. This is a travesty to which Her Majesty's Most Loyal Snails are not inclined. Instead, the intrepid Canuck Posties use sorting machines to trash your mail. Progress! Speaking of which, The Woods family is progressing as well and another wee bairn is now clamoring for attention. Belated congrats from all of us here!

The hardware SIG met last month and played with printers again. Harry Slot is slowly taking over the ZX81 librarianship from Jim Horne. Jim has been busy at work a lot lately.

At this point Rod spoke a bit about the tape we were to watch. He also reported cold feet (coolish!...ed.) on the BBS, tho he did try to con Harvey into taking over the project. Harvey was entirely non-commital.

Bill Rutter, the 2069 librarian, had nothing new to throw into the pot.

Ken Grant waxed poetic over the joys of finding out how very well WD-40 works on printer ribbons.

Chung Chow told a harrowing tale of computer fraud in Montreal.

Harvey mentioned that there was a 200 Megabyte serial wafer memory exhibit from Anamartic, Clive's other company, at the recent International Solid State Conference.

Somebody mentioned a device for automatically switching between fax and voice on an incoming 'phone line. Glenn Read joked that Harry could probably whip one of these devices up with some biscuit tins and a couple of cats.

Harry Slot then gave us another guided tour through Vancouver electrical history. Harry brought in with him some ancient Edison light bulbs, an arc lamp and a couple of different meters. One was the first privately owned voltmeter in western Canada; the other was the first one publicly owned. Harry came by these items from an old pal who ran an electrical shop,67 Hoffmeister Electric, which first opened in 1876.

At this point we were treated to a video tape of the BC Hydro testing and product development laboratory where Wilf works. The tape was great and the meeting broke up right afterwards.

February 10/89 Minutes
--by your HUMBLE scribe

The meeting opened at 19:38 with 16 valiant souls present.

Gerd started off with a gentle reminder that elections were coming up next meeting and then mentioned some peculiar crashes he'd been experiencing with both his 1000 system and QL set-up. He was pretty sure he'd tracked the problem down to a flaky power supply filter. Gerd then pulled out a

screen dump he'd made with his Brother 1109 printer and QL. A long discussion about getting paper and ribbons and various dealer prices was joined. Gerd has decided that using the QL with a TV sucks.

In his Vice/Pres report, Glenn Read said he didn't have much Sinclair-specific information, but mentioned an interesting TV show about the Symbolics Lisp Machine. The computer program listened to a woman playing a piano and also a violin. Then it accompanied her, highly sucessfully, as she tried to trick it, unsucessfully, while replaying the same pieces. Glenn also mentioned that UBC is moving from MTS to UNIX, and also that he has his Altair working. Glenn raised the question of putting together various presentations on various topics for meetings. The idea was unanimously accepted. Mention was made of the fact that Wilf Rigter had a VHS Videotape from the Materials Testing lab where he works that might be suitable for such a presentation.

Rod H. made the Treasurer's report real short: we have about CAN$1150.00.

The Editor's report made casual mention of some meeting minutes missing from the last newsletter!!!

Rod showed a Data General 16K "Core" Memory board he'd brought in. A discussion on the access speeds of various types of memory ensued.

Then Rod laid the biggy on us. He proposed, as he mentioned in the January Editor's column, that the club set up a club BBS on his second phone line, using the new Larken "MAX-COM" BBS software and his 2068 and Larken DD set-up. There was a lot of discussion, mainly of the 'Do you know what you are letting yourself in for?' sort. At length, it was moved by Eric Sakara and seconded by Harvey Taylor that the funds be allocated to rent a second phone line at Rod's place for a period of 4 - 6 months after which the project will be re-evaluated. Louis Montminy is loaning a 300/1200 baud modem for the project, until we decide if we want to go ahead and buy a modem. The question of a name for the BBS was left open, but Rod had a sly twinkle in his eye when this was mentioned.

Gerd wondered aloud who else was thinking of going to the upcoming CATS Capitolfest. Rod's 'OZ' trip accumulated enough frequent-flyer points for him to fly.

The Hardware SIG in the person of Harry Slot reported that things have been kind of slow as of late, although there will be a meeting at Harry's this month. [At this point the choir next door started caterwauling.]

Bill Rutter, as the 2068 librarian, reported receiving a letter from Tim Ward about the formation of the SNUG library. A motion was made and passed to purchase the five 2068 tapes in that library. Cost will be US$20.00. [Sorry, I didn't note who made the motion.]

Jim Horne, the ZX81 librarian, was present and he had the whole library with him, but otherwise had nothing to report.

Vince Lee spoke of the genesis of his 64K NVM project written up in the newsletter last month. He had his prototype board with him and showed us how he had used some extra keys on the add-on keyboard to switch 'write-protect' and 'reset'. Then Vince told us of a dream he had of putting a pocket TV (Sinclair?...ed.) on the board and making a portable Sinclair. In this commendable project, Vince has the lower 8K of ram switchably decoded above 32K. This allows him to keep Hi-Z in ram.

Ken Abramson reported that one could now access the SFU library by modem. Getting in is weird, but you don't need to pay. Ken also mentioned there was now a 'Seniors Net'. Harry piped up that it was probably at 110 baud.

Harvey took the opportunity to mention that 'The Web', an enviromentalist BBS in Edmonton, had not only all their equipment and files but also their backup files ripped off. Curious.

The presentation for the evening was Harry Slot showing us the fascinating antique radio, circa 1915, he has cherished since his youth. He told us how in 1939 as a very young lad he'd fallen in love with a big console radio at a friend's house, and then found a very similiar one in the loft of a friend's grandparent's barn. He wheedled his parents into letting him buy the radio but then W.W.II broke out. During wartime in occupied Europe, having a radio was grounds for being shot! He told us of the ingenious place where he hid the parts. After the war, he emigrated, taking the radio with him. In the early fifties he found some extra radio tubes in an old shop in Kerrisdale. These are Edison 'peanut' tubes of the sort built for the U.S. miltary during the First World War. He said about ten years ago he was visited by representatives from the Smithsonian who'd heard of his radio and offered to buy it or at least his spare tubes. Harry showed us the tuning coils to select different frequency ranges. He even had the original manual! While Harry was tuning in different stations, Gerd wandered off

* THE "LOO"!

...meeting date:

SPECIAL REPORT

Fractals spawn computer graphics applications

by Doug Powell
Computing Canada

If you subscribe to the theorem that mathematics is the only form of truth in this world, then the discovery of fractal dimensions was virtually inevitable.

Please meet Benoit B. Mandlebrot.

"I'm going to show you some pictures of my children," began Mandlebrot, a research fellow at the IBM Thomas J. Watson Research Centre, in delivering a special lecture to a crowd of over 500 at the University of Guelph last month.

Mandlebrot is generally regarded as the father of fractal geometry, the mathematical study of forms having a fractal dimension. Beginning with the publication of *Fractals: Form, Chance and Dimension* in 1975 (translated into English in 1977) and followed by *The Fractal Geometry of Nature* in 1982, Mandlebrot is one of those rare scientific breeds whose ideas impact both the scientific and popular domains.

"Euclid provided one way of finding order in chaos," Mandlebrot told the diverse audience of multi-disciplinary professors, students and members of the general public. "And I would like to present to you a second way to find order in chaos, which is based upon different kinds of shapes, which are called fractals."

There are many colorful analogies to describe fractals to those who do not excel in the mathematical arts. A line is one-dimensional and can be expressed by the number one. Similarly, a square is two-dimensional and a sphere three-dimensional, represented by the numbers two and three respectively. An example of a fractal may be represented by 1.4; hence the term fractional dimension.

In essence, fractals explain the irregularites in the world. And the range of practical implications is surprisingly large.

Think of it this way. Humans love to categorize. Living organisms are classified into species, genus, phyla, kingdoms and so on. Data is arranged in folders and files. But the rigid manner of classification taught in high school often gives way to *exceptions* at the university level. Fractals are a mathematical tool to describe exceptions, irregularities and roughness.

Fractals also repeat themselves over many ranges of magnification. A coastline, with its jagged edges, is a fractal shape.

Photographed from a satellite, the west coast of Canada appears jagged. A five kilometre segment photographed from an airplane appears equally jagged, with innumerable bays and inlets. So does the stretch of shoreline you can see with your naked eye or measure with your outstretched arms. Whether you view it from a satellite or through a microscope, the coastline still looks jagged.

Mandlebrot's theory says that all fractals are self-similar and can be used to find hidden order in the apparent chaos of nature. When a numerical value is assigned, the irregular shapes of nature – clouds, rippling water or the structure of a protein – can be measured and simulated on paper or by computer.

Engineers, scientists and artists worldwide have started to utilize fractal theory to construct computer simulations to explain a plethora of problems. For example:

- To predict how clay flows under pressure.
- To help oil companies extract oil more efficiently by changing their pumping methods in accordance with the rock strata that occurs in a given well.
- To predict the spread of infectious diseases.
- To aid in the synthesis of designer proteins for industrial enzymes or pharmaceuticals.
- To help explain the fluctuation of exchange rates.
- To predict the structure of the universe.

But perhaps their most useful application is in the area of computer graphics.

Computer simulations of natural phenomena such as forests, mountains, cratered planets and coastlines have traditionally required millions of bytes of memory.

Using fractals, the same images can be generated – albeit with minor flaws – using only several thousand bytes of memory.

The result is that more images can be stored in the computer memory and more efficiently transmitted over cable or radio links. And PC users can create their own images at home.

The computer only has to follow two rules arbitrarily designed to place a point at a certain location. By randomly following one rule or the other – repeated thousands of times – a fractal emerges.

Notwithstanding its practical computer applications, fractal theory continues to be an extremely useful tool to predict and model variations.

Fractals essentially underlie any operating system on this planet.

Applications that could evolve from fractal theory in the future are currently unforeseeable. But with a theory that synthesizes modern and classical mathematical ideas into one, and graphically utilizes the computer for expression, the prospects provide fodder for the vivid imagination.

And without the computer, fractals would have remained a diversion for the few rather than a tool for the many.

****

```
    1 REM * MENUPROGRAM REV 3.0 *
    2 REM * BY W.RIGTER  FEB/86 *
    3 REM ****DO NOT USE RUN****
    4 REM USE GOTO 100 TO FORMAT
    5 REM USE GOTO START TO START
    6 REM
   10 REM FORMAT
  100 PRINT AT 21,0;"HOW MANY MEN
US?"
  110 INPUT ZX
  120 PRINT AT 21,0;"NUMBER OF LI
NES PER MENU?"
  130 INPUT NX
  150 LET NX32=ZX*NX*32
  160 LET START=9000
  170 LET PRINTMENU=9100
  180 LET MENUKEY=9200
  185 LET LINEKEY=9250
  190 LET MENU=9300
  200 LET MPOS=0
  210 LET MPOS1=1
  220 LET M$=" ENTER MENU NUMBER
(0 TO "
  285 FAST
  290 REM FORMAT ARRAYS
  300 DIM A$(ZX,NX*32)
  310 DIM A(ZX,NX)
  500 FOR Z=1 TO ZX
  510 FOR N=1 TO NX
  550 LET A(Z,N)=8999
  560 LET A$(Z,32*N-31 TO )=CHR$
(N+27)+"."
  570 LET A$(Z,NX*32-28 TO NX*32)
="SELECT MENU"
  580 NEXT N
  590 NEXT Z
  600 LET A$(ZX,NX*32-92 TO NX*32
-64)="SUBROUTINE ADDRESS EDITOR"
  610 LET A$(ZX,NX*32-60 TO NX*32
-32)="MENU TEXT EDITOR"
  620 LET A$(ZX,NX*32-124 TO NX*3
2-96)="MENU SCREEN POSITION"
  800 FOR Z=1 TO ZX
  810 LET A(Z,NX)=9500
  820 NEXT Z
  830 LET A(ZX,NX-1)=9600
  840 LET A(ZX,NX-2)=9700
  850 LET A(ZX,NX-3)=9800
  990 CLS
  999 GOTO START
 1000 REM START OF USER PROGRAM
 8999 RETURN
 9000 REM START
 9010 LET Z=1
 9020 LET N=1
 9030 LET Z1=Z
 9050 REM MAIN LOOP
 9060 SLOW
 9070 GOSUB MENU
 9080 GOTO 9060
 9100 REM PRINTMENU
 9110 PRINT AT MPOS,6;"MENU ";CHR
$ (Z+27);" - LINE ";CHR$ (N+27);
 9120 PRINT AT MPOS+2,2;A$(Z, TO
NX*32-1)
 9130 RETURN
 9200 REM MENUKEY
 9220 LET Z=CODE INKEY$-27
 9225 IF Z=Z1 THEN GOTO 9220
 9227 LET Z1=Z
 9230 IF Z<=0 OR Z>ZX THEN GOTO 9
220
 9240 RETURN
 9250 REM LINEKEY
 9260 LET N=CODE INKEY$-27
 9270 IF N<=0 OR N>NX THEN GOTO 9
260
 9290 RETURN
 9300 REM MENU
 9310 GOSUB PRINTMENU
 9320 GOSUB LINEKEY
 9330 GOSUB PRINTMENU
 9340 GOSUB A(Z,N)
 9350 RETURN
 9500 REM SELECTMENU SUB
 9510 PRINT AT MPOS1+N,5;M$;CHR$
(ZX+155);"■";
 9520 GOSUB MENUKEY
 9540 RETURN
 9600 REM MENUTEXT SUB
 9610 GOSUB 9500
 9630 FOR N=1 TO NX
 9640 GOSUB PRINTMENU
 9650 PRINT AT MPOS1+N,4;" ENTER
TEXT FOR THIS LINE "
 9660 INPUT Z$
 9670 IF Z$="" THEN GOTO 9690
 9680 LET A$(Z,32*N-28 TO 32*N-1)
=Z$
 9690 NEXT N
 9693 LET N=NX-1
 9695 LET Z=ZX
 9697 RETURN
 9700 REM SUB ADDRESS SUB
 9710 GOSUB 9500
 9730 FOR N=1 TO NX
 9740 GOSUB PRINTMENU
 9750 PRINT AT MPOS1+N,4;" ENTER
SUBROUTINE ADDRESS "
 9760 INPUT Z$
 9770 IF Z$="" THEN GOTO 9790
 9780 LET A(Z,N)=VAL Z$
 9790 NEXT N
 9793 LET N=NX-2
 9795 LET Z=ZX
 9797 RETURN
 9800 PRINT AT 21,0;"MENU LOCATIO
N(LINE 0 TO LINE ";19-NX;")"
 9810 INPUT MPOS
 9820 IF MPOS<0 OR MPOS>19-NX THE
N GOTO 9810
 9840 LET MPOS1=MPOS+1
 9850 CLS
 9860 RETURN
 9900 FOR Z=1 TO ZX
 9910 LPRINT "        MENU-";CHR$
(Z+27);,,
 9920 LPRINT A$(Z),,
 9930 NEXT Z
 9940 RETURN
```

```
    MENU 0 - LINE 0

0.
1.
2.
3.
4.
5.
6.
7.
8.
9. SELECT MENU
```

```
    MENU 0 - LINE 9

0.
1.
2.
3.
4.
5.
6.
7.
8.
9. ENTER MENU NUMBER (0 TO 9)
```

```
    MENU 0 - LINE 0

0.
1.
2.
3. SELECT MENU
```

I did some rooting around in my tape library and discovered some programs that I always wanted to submit to the VSUG newsletter but somehow slipped away. The MENU program is what is sometimes referred to as a SHELL. This means that it is meant to be wrapped around other programs to make them more friendly. The philosophy behind this program is to give a structure or framework for your program development. MENU should be loaded and run to produce a set of menus which the user can program with a selection of menu items. The number of menus and the length of menus is entered by the user. After a few moments a menu text array is formatted with item numbers and the top menu is displayed. The last item of each menu is the submenu select function and this is now used to select the last menu. For example if you formatted 10 menus of 10 items each, then select from items 0 to 9 the last item (9). The prompt asks the user to enter a menu number and the last of these is menu 9 which the user enters. Now a new menu (9) pops into view which has been programmed with some usefull utilities. The first of these allows the user to reposition the menu at some new screen location to accomodate other user programmed displays. Just select the item by number and the prompt handles the rest. The next item is the MENU TEXT editor which is used to compose the text for each menu. First select the item and then select the menu you which to modify. At the prompt enter text for each line of the menu and terminate text with a N/L. To skip a line simply type N/L and to erase a line enter a space followed by N/L. The menus should be logically ordered to combine similar functions in each menu. (for example the utilities menu). Now return to the next item in the last menu which is the SUBROUTINE ADDRESS editor. This function is selected to assign a line number to each menu item to which the program jumps when that particular item in a menu is selected. The subroutine at that line number is written in the conventional manner and ends with a RETURN to the menu program. As an example look at the MENU program listing which is annotated to make it easier to understand. Well that is all for now and HAPPY MULTIPLE CHOICE PROGRAMMING. LOGOFF WILF R.

MENU 9 - LINE 0

```
0. ENTER TEXT FOR THIS LINE
1. SUBROUTINE ADDRESS EDITOR
2. MENU TEXT EDITOR
3. SELECT MENU
```

MENU 3 - LINE 3

```
0.
1.
2.
3. SELECT MENU
```

MENU 8 - LINE 2

```
0. MENU SCREEN POSITION
1. SUBROUTINE ADDRESS EDITOR
2. ENTER MENU NUMBER (0 TO 8)
3. SELECT MENU
```

MENU 0 - LINE 3

```
0.
1.
2.
3. ENTER MENU NUMBER (0 TO 8)
```

MENU 8 - LINE 3

```
0. MENU SCREEN POSITION
1. SUBROUTINE ADDRESS EDITOR
2. MENU TEXT EDITOR
3. SELECT MENU
```

VANCOUVER SINCLAIR USERS GROUP - ZX81 & TS1000/1500 BOOK LIBRARY

Listed in order of :"TITLE","AUTHOR"*,"ISBN"*,"REMARKS"
*=unknown if not listed

"The Gateway Guide to the ZX81 and ZX80","Mark Charleton","0-916688-27-5","More than 70 Programs"

"The ZX81 Companion","Robert Maunder","0-916688-26-7","Graphics, Information Processing, Education, Monitor Listing"

"MASTERING YOUR TIMEX SINCLAIR 1000 PERSONAL COMPUTER","Tim Hartnell and Dilwin Jones","0-553-23241-X","Beyond the instruction manual"

"YOUR TIMEX SINCLAIR 1000 AND ZX81","Douglas Hergert","0-89588-099-7","Learn how to : basics, program, calculate, bar graphs, pictures"

"TIMEX/SINCLAIR 1000 DICTIONARY AND REFERENCE GUIDE ","Joseph C. Giarratano", "0-88022-041-4","Includes section on Z80 CPU architecture"

"BETTER PROGRAMMING FOR YOUR SPECTRUM AND ZX81","S. Robert Speel (consulting editor Tim Hartnell)","0-00-636610-4","Programming techniques and programs"

"MACHINE LANGUAGE PROGRAMMING MADE SIMPLE FOR YOUR ZX81/Z80","Beam Software", "0-86161-101-2","Also for TS1000/1500"

"51 GAME PROGRAMS FOR THE TIMEX SINCLAIR 1000 AND 1500 ","Tim Hartnell", "0-451-12598-3","Moving graphics, driving, board, word & letter games; simulations"

"TRS-80 Assembly-Language Programming","William Barden, Jr.","Library of Congress # 79-63607","Uses Z80 CPU"

"THE SINCLAIR ZX81 programming for real applications ","Randle Hurley", "0-88056-090-8","Bulk storage, word processing, financial, banking, educational"

"THE ZX81 POCKET BOOK","Trevor Toms","0-8359-9524-0","Programs, introduction to machine code, adventure game "

"49 EXPLOSIVE ADVENTURE GAMES FOR THE ZX81","Tim Hartnell", "0-8359-2086-0","Programming instructions and game rules"

"A COURSE IN BASIC PROGRAMMING","Hugo Davenport","ZX80 Operating Manual"

"TIMEX User Manual","Steven Vickers (with revisions by C.F. Durang)","TS1000 Basic Programming"

"ZX81 BASIC PROGRAMMING","Steven Vickers","User Manual"

"TECHNICAL SERVICE DATA FOR TS1000/ZX81","SAMS COMPUTERFACTS","FOLDER"

"CATALOGUE","E. ARTHUR BROWN CO. NO. 2","COMPUTER ACCESSORIES"

"DOCTOR ZX81","EXCERPT from ""NOT ONLY 30 PROGRAMS FOR THE SINCLAIR ZX81"""

VANCOUVER SINCLAIR USERS GROUP - ZX81 & TS1000/1500 MAGAZINE LIBRARY
==========

Listed in order of: "TITLE","ISSUES","REMARKS"

"PERSONAL SOFTWARE","WINTER'83,SPRING & SUMMER'84,AUTUMN'85 ","British, mostly Spectrum"

"TIMEX SINCLAIR USER","VOL. 1, #1 TO #7 incl.","A classic"

"SYNC MAGAZINE","VOL.2, #4 VOL.2, #5 VOL.3, #1 TO #6 incl., VOL.4, #1 & #2","THE FIRST ONE"

"ZX COMPUTING","OCT/NOV'83, DEC/JAN'84 TO AUG/SEP'84, DEC/JAN'85 TO APR'86, JUN'86, AUG'86, SEP'86, MAY'87","British"

"SINCLAIR USER","#20 (NOV'83), #24, #29, #30, #38 (MAY'85) & ANNUAL FOR 1985","British"

"WHAT MICRO?","MARCH '84","British"

"PERSONAL COMPUTER GUIDE","SPRING '83","Comparison of computers on the market"

"SINCLAIR PROGRAMS","JUL/AUG'82, SEP'83, FEB'85","British"

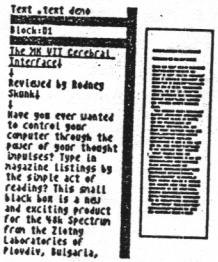
****

Reprinted below from Sinclair User is a review of the program used to created page 2 & 3 of this issue.

WORD-MASTER AND TYPELINER

Cardex/£14.95 and £10.50

These are, I must say *the* most impressive pieces of software I've ever seen for the Spectrum. No kidding. The output of these programs, when put through an appropriate printer (and we're only talking Epson matrix with ESC "L" 120dpi graphics mode, here) is of such good quality that I had to look twice before agreeing that it could possibly have been originated on a Spectrum. *Word-Master* has been out for a while, and is a pretty good wordprocessor program in its own write (ho ho). But with the addition of *Typeliner*, an extension program which you load into *Word-Master*, it becomes a powerful page lay out program. Using easily remembered single letter commands, you can position blocks of *Word-Master* text on an A4 page on screen, using boxes and lines, and a number of excellent and readable fonts. This could be your chance to get into publishing. Using another program called *Headliner* (unfortunately not available at time of going to press), you can paste graphics into your page, too. So you could conceivably use pictures grabbed using the video digitisers we showed you a couple of months ago, just to add an air of professionalism to the output.



Here's the *Typeliner* laying out a page. As you can see the A4 page is pictured on the right of the screen as a white rectangle, into which you physically lay the text files from memory. The boxes and columns are sized with the cursor keys and the usual QAOP SPACE combo, which makes for very accurate shaping and positioning of blocks of text on the page. Page previews are available, letting you see how you're doing.

The program worked brilliantly on our office set up, which is quite amazing really, considering the fact that *nothing* works on our system, given the slightest reason not to! No crashes, nice bold output on the battered old Epson, *and* ease of page editing. Also, as well as some very nice fonts to play with, there's a font editor too, so you can either design your own fonts from scratch, or delete some of the less useful characters (/, (,), $, [,] etc . . .) to save memory. The grid on which you design the fonts is a massive 24 x 24, unlike the piddling 8 x 8 usual Spectrum font, which obviously makes for some more interesting typestyles.

There's a lot of work gone into this suite of programs, and in my opinion they're worth every nickel of the £35 you'll pay for the whole lot of 'em.

THE ZX BREADBOARDER
Project #1

A PROPORTIONAL JOYSTICK INTERFACE

For the ZX81, TS1000, TS1500 and PC8300-T

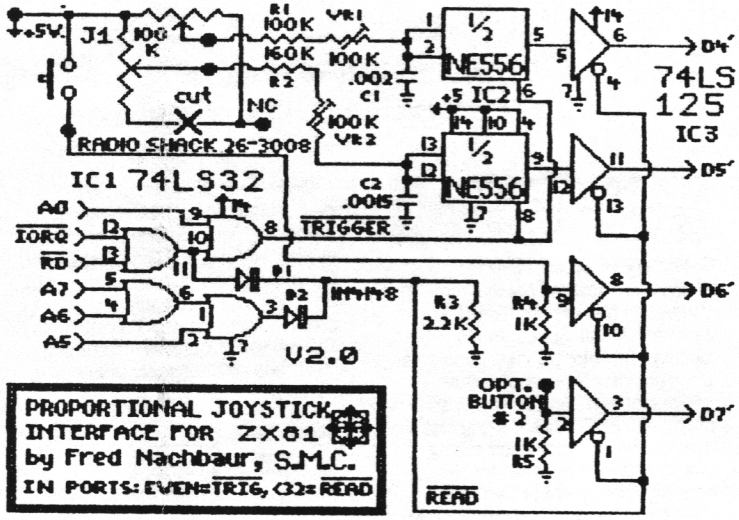
Here is a little project for kitters, tinkerers, and other hardware hackers. No exotic parts, yet gives you a wonderful pointing and control tool. Immediately position a cursor anywhere on the screen (32x24), play "Flight Simulator" like it was supposed to be, and stay tuned for other wonderful modified programs that are waiting in the wings!

The hardware is designed around the software, which was designed around the hardware. I think that Wilf Rigter will get a chuckle out of it. The simple hardware (3 cheap chips) is read by an equally simple software routine (3 Z80 commands). The software routine is nestled into a copy of the keyboard routine (02BB) which is called instead by the vertical sync interrupt routine (SLOW mode processor), so the joystick is in a sense "interrupt driven," even though such shenanigans are supposedly not possible on the ZX.

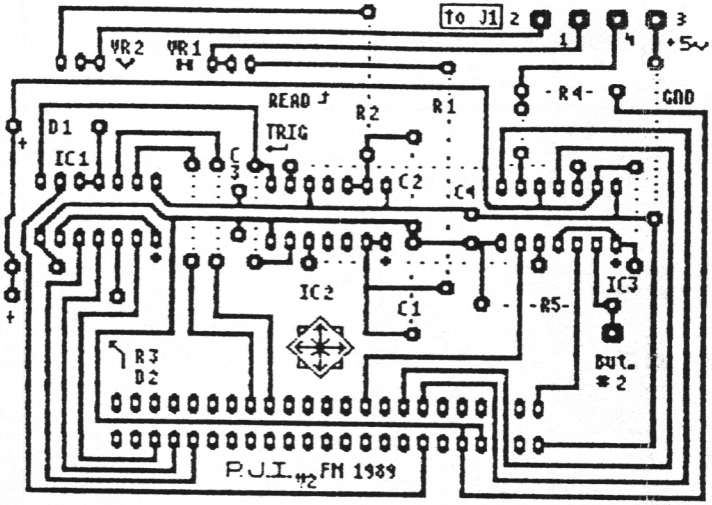
FREEBIE DEPT: Anyone who wishes may do anything he/she wishes with this hardware design and artwork. The software in this article are equally in the public domain. If some enterprising fellow wants to put these together for sale to others, he has my full permission (and condolances).

MORE FREEBIES: I wrote up a fairly thorough article on this beast, which is recommended reading for PJI experimenters. Plus, you just might pick up a couple other things on the side. It is being made available to the Vancouver ZX User Group, who may make copies available to others at nominal cost.

Also available are two PJI-compatible games. "JOY-FLIGHT" is the Psion/Timex Flight Simulator adapted for the PJI. The program's realism takes a quantum leap with the use of a proportional joystick. "JOY-BUST" is the excellent "Breakout" program, with a twist. (Stand by for Merchant of Venus, PJI style.)



C1 - .002 uFd. disc or mylar capacitor
C2 - .0015 uFd. disc or mylar capacitor
C3,C4 - .01 uFd. disc capacitors
D1,D2 - 1N4148 or 1N914A glass diodes
IC1 - 74LS32 quad 2-input OR gate
IC2 - NE556 dual timer
IC3 - 74LS125 quad tri-state buffer
J1 - 100K Proportional Joystick, Radio Shack 26-3008 or equivalent
P1 - 46-pin edge connector, .100" spacing, key at position 3
P2 - 46-trace expansion connector, slot at position 3
R1 - 100K, 1/4W 5% film resistor
R2 - 160K, 1/4W 5% film resistor
R3 - 2.2K, 1/4W 5% film resistor
R4,R5 - 1K, 1/4/W 5% film resistors
VR1,2 - 100K linear trimpots



THE HARDWARE

PC BOARD ARTWORK

Copy this actual-size artwork to a sheet of photo-copy mylar. Your local copy shop should be able to help you out for under $2. Expose, develop, etch and drill the board. Tin-plate if desired. Fix any breaks.

Install the eight wire jumpers on the component side. (These are non-intersecting, so you can use a 2-sided board if you're a perfectionist. Harry, I'd love to see your board when it's done.)

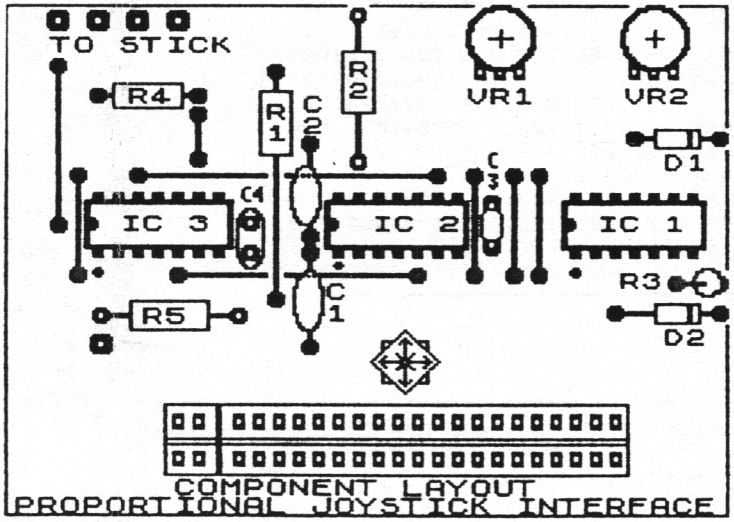
Install the 3 14-pin DIP sockets. Before installing the socket for IC2, run a 30 AWG bare jumper through pins 4 and 10 before inserting the socket to solder it. Alternately, jumper these two pins with a piece of resistor wire-end on the wiring side. Install the 5 resistors, 2 diodes and 4 capacitors. See the component layout diagram.

Use a DIP header, 1/2 of a DIP socket, or whatever (spacing is .200") to connect to the joystick, which has been modified as per the schematic.

Install the edge-connector and finger board, or make other arrangements for connecting to your computer. Install the trimpots. If you can't find the little cermet jobs with .100" lead spacing, use silicone, wire, and bubble-gum as required.

Alternately, wire it up on a piece of plated perf-board. It'll probably be done a lot faster that way anyhow.

To make the component layout diagram work as an "overlay" for your board, reduce it to 97%.



LISTING 1: MACHINE-CODE LOADER

```
   1 REM XXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXX
9000 REM M/C LOADER
9020 CLS
9030 PRINT "ADDRESS? ";
9040 INPUT AD
9050 PRINT AD,"BYTES? ";
9060 INPUT BY
9070 PRINT BY
9080 FOR N=AD TO AD+BY-1
9090 INPUT V
9100 POKE N,V
9110 PRINT (STR$ (V+1000))(2 TO
);":";
9120 NEXT N
9130 STOP
```

TABLE 1: PROP. JOYSTICK MACHINE CODE, DECIMAL VALUES

```
ADDRESS? 16624  BYTES? 90

001:031:031:033:130:064:237:178:
211:255:042:012:064:203:252:205:
146:002:237:095:001:001:025:062:
245:205:181:002:043:205:146:002:
195:162:064:000:000:000:000:000:
221:033:162:064:201:253:070:052:
058:052:064:184:040:250:033:130:
064:001:000:000:030:031:203:102:
040:001:012:203:110:040:001:004:
035:029:032:242:062:023:184:048:
001:071:043:126:230:192:050:022:
065:201:
```

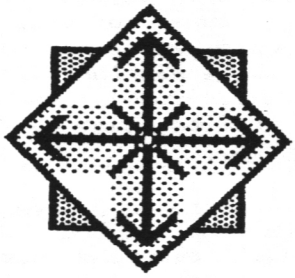
LISTING 2: ROM-CODE UPLOADER

```
8000 LET AD=16546
8005 FOR N=553 TO 630
8010 POKE AD,PEEK N
8015 LET AD=AD+1
8018 NEXT N
8020 STOP
```


LISTING 3: JOYSTICK MACHINE-CODE

```
addr HEXCODE  NAME MNEMONIC
==========================
40A2 2A3440   DP-1 LD HL,(FRMS)
40A5 2B            DEC HL
40A6 3E7F     DP-P LD A,7F
40A8 A4            AND H
40A9 B5            OR L
40AA 7C            LD A,H
40AB 2003          JR NZ ANTH
40AD 17            RLA
40AE 1802          JR OVNC
40B0 46       ANTH LD B,(HL)
40B1 37            SCF
40B2 67       OVNC LD H,A
40B3 223440        LD (FRMS),HL
40B6 D0            RET NC
40B7 CD6B02   DP-2 CALL KBSC
40BA ED4B2540      LD BC,(LASK)
40BE 222540        LD (LASK),HL
40C1 78            LD A,B
40C2 C602          ADD A,02
40C4 ED42          SBC HL,BC
40C6~3A2740        LD A,(DBNC)
40C9 B4            OR H
40CA B5            OR L
40CB 58            LD E,B
40CC 060B          LD B,0B
40CE 213B40        LD HL,CDFG
40D1 CB86          RES 0,(HL)
40D3 2008          JR NZ NKEY
40D5 CB7E          BIT 7,(HL)
40D7 CBC6          SET 0,(HL)
40D9 C8            RET Z
40DA 05            DEC B
40DB 00            NOP
40DC 37            SCF
40DD 212740   NKEY LD HL,DBNC
40E0 3F            CCF
40E1 CB10          RL B
40E3 10FE     LP-B DJNZ LP-B
40E5 46            LD B,(HL)
40E6 7B            LD A,E
40E7 FEFE          CP FE
40E9 9F            SBC A,A
40EA 061F          LD B,1F
40EC B6            OR (HL)
40ED A0            AND B
40EE 1F            RRA
40EF 77            LD (HL),A
40F0 011F1F        LD BC,1F1F
40F3 218240   JOYS LD HL,BUFR
40F6 EDB2          INIR
```

```
40F8 D3FF       D-ON OUT (FF),A
40FA 2A0C40          LD HL,(DFIL)
40FD CBFC            SET 7,H
40FF CD9202          CALL MRGN
4102 ED5F            LD A,R
4104 010119          LD BC,1901
4107 3EF5            LD A,F5
4109 CDB502          CALL SCRN
410C 2B              DEC HL
410D CD9202          CALL MRGN
4110 C3A240          JP DP-1
4113~00              NOP
4114 00              NOP
4115 00              NOP
4116 00         BUTN NOP
4117 00              NOP
4118 DD21A240   ENGA LD IX,DP-1
411C C9              RET
411D FD4634     DCOD LD B,(FRMS)
4120 3A3440     WAIT LD A,(FRMS)
4123 B8              CP B
4124 28FA            JR Z WAIT
4126 218240          LD HL,BUFR
4129 010000          LD BC,0000
412C 1E1F            LD E,1F
412E CB66       LOOP BIT 4,(HL)
4130 2801            JR Z NO-X
4132 0C         INCX INC C
4133 CB6E       NO-X BIT 5,(HL)
4135 2801            JR Z NO-Y
4137 04         INCY INC B
4138 23         NO-Y INC HL
4139 1D              DEC E
413A 20F2            JR NZ LOOP
413C 3E17       OVR? LD A,17
413E B8              CP B
413F 3001            JR NC BUT?
4141 47              LD B,A
4142 2B         BUT? DEC HL
4143 7E              LD A,(HL)
4144 E6C0            AND C0
4146 321641          LD (BUTN),A
4149 C9              RET
```



LISTING 4: BASIC DEMO AND JOYSTICK CALIBRATION

```
  2 REM  USR 16664 TO ENGAGE
  3 REM  USR 16669 TO DECODE
  4 REM PEEK 16662 => BUTTONS
  9 REM basic demo+calibration
 10 REM BY F.NACHBAUR, S.M.C.
 15 RAND USR 16664
 20 LET D=16669
 30 LET B=16662
 40 POKE 16418,0
 42 LET X=0
 44 LET Y=0
 46 POKE 16418,0
 50 PRINT AT Y,X;" ";AT 0,0;"O"
;AT 0,31;"O";AT 23,0;"O";AT 23,3
1;"O"
 55 LET L=USR D
 60 LET Y=INT (L/256)
 70 LET X=L-256*Y
 75 LET A$=(CHR$ 23 AND NOT PEE
K B)+(CHR$ 128 AND PEEK B)
 80 PRINT AT Y,X;A$
 90 GOTO 50
```

ENTERING THE SOFTWARE

Use Listing 1 to enter the decimal values of Table 1 into a 1 REM line. Then use Listing 2 to steal the required code from the ROM. Finally use Listing 4 to calibrate and demonstrate the use of the joystick. Listing 3 is the source-code of the machine-code in the 1 REM.

FUN AND GAMES DEPARTMENT: Change the LD HL,nnnn at JOYS (40F3) to point instead to the first byte of the display file. Now engage the joystick with RAND USR 16664. You get a graphic demonstration of what "interrupt driven" means, as you move the joystick around. Just don't press the button! (However, "button 2" would be allowable.) Incidentally, this was my best debugging tool during development.

Improvements have been and will continue to be made to the DCOD decoding routine. Join in the fun!

The notice below is first appeared in the Apr/89 issue of the CCATS newsletter "The Plotter". It helps explain what is the current situation with Time Designs Magazine.

Tim Woods, Editor and Publisher of TIME DESIGNS Magazine has announced: "Our Timex Sinclair magazine is still very much alive, even though some of our recent issues have been released late!"

Due to the birth of a new son, Anthony David Woods, during the Holiday season, both Tim and Stephany Woods, who produce the computer magazine as a family "hobby" and on a part-time basis, found a lot of their energy was devoted to the new addition.

Tim commented, "I was sorry to hear that SYNCWARE NEWS, another Timex publication, has folded. But, understandably, it has become increasingly difficult for most editors and publishers to work on a limited time schedule and with a declining user base, to keep going. I'm not joking when I say that to produce a newsletter, or magazine of any size is a tremendous amount of work...a real labor of love! We are re-organizing our efforts here at TIME DESIGNS to ensure that our magazine is published for many years to come. I feel it is a worthwhile project."

On the eve of releasing their Fourth Anniversary issue, several changes have been made to improve service to TIME DESIGNS customers. First of all, the bi-monthly designation of issues has been dropped. Instead, only a numbering of volume and issue will be used. For example, "VOLUME 5 ISSUE ONE" will indicate the upcoming anniversary issue (formerly the Nov/Dec '88 issue).

"We just felt it would be redundant for our readers to receive a winter issue in the springtime. Our customers will get every issue they have paid for! We will offer subscription for both six and twelve issues. Starting with VOL.5 NO.1 we will continue to release issues approximately sixty days apart. A lot of electronic journals are numbered this way, in fact we have always numbered TIME DESIGNS along with the bi-monthly designation, so it shouldn't be too confusing."

Along with this numbering system, some new software will be put on-line to track subscription accounts.

"I think our mailing label and the expiration information was kind of confusing for some individuals. The new software should alleviate this problem. Instead of an expiration date, there will be a number in the upper right-hand corner. This will indicate how many issues are remaining." (EXAMPLE: [5] indicates five issues remaining).

TIME DESIGNS readers will also notice a new look, a new logo, and upgrades to several sections.

"To lighten my own work load, I have arranged for some of our regular contibutors to take over whole sections and be completely responsible for their content and appearance. For instance, Stan Lemke and Bill Ferrebee will be collaborating on a regular TS2068 secion."

Other sections, including the one for the Sinclair QL will get similar treatment. Extensive use of telecommunications (modems) for author submissions will also help to speed up magazine production.

"If anyone has experienced missed issues or similar problems, we want to encourage them to drop us a postcard or note. We also maintain a 24-hour message mashine for this purpose (503-824-2658). We will correct the problem, just as soon as we possibly can."

"We have appreciated everbody's patience with some of our delays. Generally, most everyone has been really understanding. Our Timex Sinclair community is made up of a great bunch of people. In return, we will continue to publish a quality magazine."

Programming Tips on the 2068

Reprinted from SUM Magazine Nov/85

Sometimes a programming problem can be easily solved by using certain tricks. Here are a few tips and techniques to help you possibly the next time you get stuck. I hope you will find them useful.

THE SAVE PROBLEM

To replace the message "Start tape then press Enter" you just need to POKE 26689, 38. Try:

```
10 PRINT #0; "All right, I'm
ready."'"Start your tape"'"AFTER
that press ENTER"
20 POKE 26689,38:SAVE "demo"
```

For those with a Spectrum ROM, POKE 23736,181 starts SAVEing immediatly, without waiting for a key press.

THE SCROLL PROBLEM

This little machine code routine scrolls a certain number of lines during a certain time. These codes can be put anywhere in memory.

```
10 CLEAR 49999
20 FOR I=50000 TO 50020
30 READ A: POKE I,A
40 NEXT I
50 DATA 205,220,27,205,96,
38,237,67,250,91,197,
253,70,192,205,59,9,
193,16,246,201
```

Use this routine with INPUT USR add,x,y where add=start address and x= 1st line to be scrolled, y=how many times. With the routine at 50000, try:

```
10 CLS
20 PRINT "....Don't move.....
.."
30 INPUT AT 0,0;"Write something:";LIN
E a$
40 INPUT USR 50000,22,1
50 PRINT AT 21,0;a$
60 GOTO 30
```

THE LOAD PROBLEM

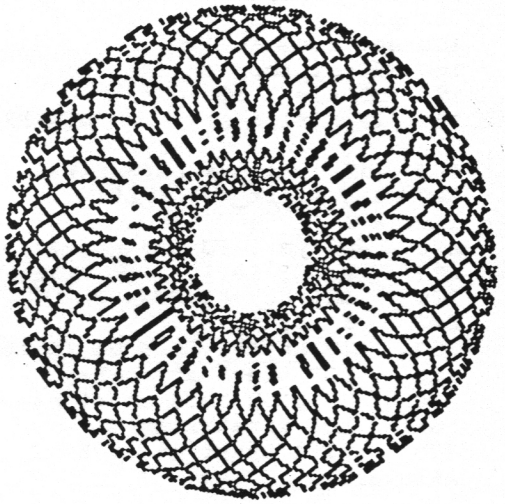
Large programs are generally recorded in several parts on cassette. After the loader program, a screen presentation is loaded and the main program is now ready to be loaded. But it's not very esthetic when the program name overprints the screen presentation.

To avoid this situation, we can add to the loader program POKE 23570,16 and in the main program, we must restore by using POKE 23570,6. PRINT and LIST will be corrupted otherwise.

THE INKEY$ PROBLEM

Suppose we have: 50 IF INKEY$="Y" THEN GOTO 100. If the keyboard is in lowercase mode, the computer will see "y" instead of "Y" and pass on to the next line. Again POKE will rescue us:

```
POKE 23658,8 for UPPERCASE mode
POKE 23658,0 for LOWERCASE mode
POKE 23617,2 for GRAPHIC mode
POKE 23617,1 for EXTENDED mode
```



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QL BANNER
by Tim Swenson

This is a little neatsy-keen program that I originaly wrote years ago, on the ZX81.

The user types up to 10 strings of up to 80 characters each. The strings are then slowly "marched" across the screen, very much like the signs on Bart. The letters start on the right and scroll off to the left.

The screen that is used to show the banner can be fancied up a bit. Playing around with the stipple of the strips can be fun.

So, here it is. Have fun with it. It might come in handy someday.

```
100 WINDOW 512,256,0,0 : PAPER 0
: INK 4
110 DIM a$(10,80)
120 clear_data
130 set_screen2
140 get_all
150 set_screen1
160 REPeat loop
170 FOR x = 1 TO 10
180  IF LEN(a$(x)) < 2 THEN NEXT
x
190  LET length = LEN(a$(x))
200  LET start_s=1 : LET
last_s=1
210   FOR y= 1 TO LEN(a$(x))+32
220    PAUSE 10
230    LET key=KEYROW(0)
240    f_key
250    IF key<>0 THEN GO TO 160
260    LET start_at = 32-y
270    IF y>32 THEN start_at=0
280    LET x$=a$(x)&" "
290    AT 4,start_at : PRINT
x$(start_s TO last_s)
300    LET last_s = last_s +1
310    IF y>31 THEN LET start_s
= start_s +1
320  NEXT y
330  AT 4,0: PRINT "  "
340 NEXT x
350 END REPeat loop
360 DEFine PROCedure f_key
370  SELect ON key
380    ON key = 2
390      set_screen2
400      get_string
410      set_screen1
420    ON key = 8
430      clear_data
440      set_screen2
450      get_all
460     ON key = 16
470      set_screen2
480      EXIT loop
490      set_screen1
500      STOP
510  END SELect
520 END DEFine f_key
530 DEFine PROCedure set_screen1
540  MODE 8 : WINDOW 512,256,0,0
550  PAPER 0 : INK 4 : CLS
560  CSIZE 3,1
570  STRIP 1 : AT 2,0: PRINT "
"
580  STRIP 1 : AT 6,0: PRINT "
"
590  STRIP 4 : AT 1,0: PRINT "
"
600  STRIP 4 : AT 7,0: PRINT "
"
610  STRIP 3 : AT 0,0: PRINT "
"
620  STRIP 3 : AT 8,0: PRINT "
"
630   STRIP 0
640 END DEFine set_screen1
650 DEFine PROCedure set_screen2
660  MODE 4 : CSIZE 0,0
670  CLS
680 END DEFine set_screen2
690 DEFine PROCedure clear_data
700  FOR x = 1 TO 10
710   a$(x) = " "
720  NEXT x
730 END DEFine clear_data
740 DEFine PROCedure get_string
750   PRINT "Enter String Number
to Re-enter "
760   INPUT x
770   PRINT : PRINT "Enter New
String Message "
```

```
780    INPUT x$
790    LET a$(x) = x$
800    PRINT : PRINT "Do You Want
To Do Another? (Y/N)"
810    INPUT x$
820    IF x$="y" OR x$="Y" THEN
GO TO 750
830    CLS
840 END DEFine get_string
850 DEFine PROCedure get_all
860  PRINT "How Many Message
Strings Do You Want To Enter?"
870  INPUT y
880  PRINT
890  FOR x = 1 TO y
900    PRINT "Enter String
Number #";x
910    INPUT x$
920    LET a$(x) = x$
930    PRINT
940  NEXT x
950 END DEFine get_all
```

```
   1 REM ....this program is off
 the "Cleveland" tapes. The auth
or is unknown but credit is exte
nded to him for a great program.
   2 REM
   3 REM
   4 REM
   5 REM
  50 POKE 23658,8
  55 REM
      Remove line 50 if you want
      the hidden words to appear
      in small letters.This will
      help in debugging
  71 CLS
  75 BORDER 6: PAPER 6
 100 CLS
 150 PRINT AT 8,0; INK 2;"
     HIDDEN WORD";;;
 200 PRINT INK 3;"       PUZZLE
 GENERATOR";;;
 400 INPUT "HOW MANY ROWS HIGH?
22 MAX.";MR
 402 IF MR>22 THEN GO TO 400
 450 INPUT "HOW MANY COLUMNS WID
E? 16 MAX.";MC
 452 IF MC>16 THEN GO TO 450
 500 LET NC=MR*MC
 550 LET P$="-"
 600 LET K$="*"
 650 LET D$="+"
 700 LET NW=0
 750 DIM M$(MR,MC)
 800 DIM W$(50,16)
 825 DIM R(50,2)
 850 DIM D(8,2)
 900 DIM S(NC)
 950 DIM U(50)
1000 DIM Q(50)
1700 CLS
2300 LET NW=0
2350 LET E=0
2400 LET NW=NW+1
```

```
2450 CLS
2452 PRINT "GRID SIZE IS ";MR;"
X";MC;;;
2454 PRINT "YOU HAVE HIDDEN ";NW
-1;" WORDS";;;
2456 PRINT "GRID IS ";INT (E/NC*
100);"% FULL";;;
2498 PRINT "PRESS ENTER TWICE WH
EN FINISHED";;;
2500 PRINT INK 2;"ENTER WORD #";
NW;"  (MAX.50)"
2525 IF NW>50 THEN PRINT : PRINT
 : PRINT "MAX. 50 WORDS USED,PRE
SS ENTER."
2540 INPUT E$
2545 IF NW>50 AND E$="" THEN GO
TO 2700
2550 IF NW>50 AND E$<>"" THEN CL
S : PRINT AT 10,0;"YOU MAY NOT U
SE MORE THAN 50    WORDS. RUN TH
E PROGRAM AGAIN.": PAUSE 900: RU
N 50
2551 LET R(NW,1)=NW: LET R(NW,2)
=LEN E$
2552 LET R(NW,1)=NW: LET R(NW,2)
=LEN E$
2553 LET W$(NW)=E$
2554 LET E=E+LEN (E$)
2600 IF W$(NW,1)=" " THEN GO TO
2700
2650 GO TO 2400
2700 LET NW=NW-1
2750 FOR I=1 TO 8: READ D(I,1):
READ D(I,2): NEXT I
2775 REM

      To make puzzle easier,hide
      words in only 4 directions
         Use
      2800 DATA 0,1,1,1,0,-1,1,
       0,1,1,1,0,-1,1
2800 DATA 0,1,1,1,1,0,1,-1,0,-1,
-1,-1,-1,0,-1,1
2905 LET EST=INT (((NC/100)*.6)+
(6.7^(NC*(E/NC)/100+.6)))
2910 PRINT AT 4,0;"  THE TIME IT
 TAKES TO COMPLETE THE PUZZLE WI
LL VARY WITH THE    SIZE OF THE G
RID AND THE NO. OF WORDS USED.";
TAB 2; INK 2;"TIME INCREASES GRE
ATLY FOR      LARGER GRIDS OVER
50% FULL."
2911 PRINT
2912 PRINT                    "
EST.TIME OF THIS PUZZLE ";EST;"
 MIN."
2950 PRINT AT 16,0; FLASH 1;"SET
TING UP THE GRID,PLEASE WAIT"
3000 FOR I=1 TO MR: FOR J=1 TO M
C: LET M$(I,J)=P$: NEXT J: NEXT
I
3050 FOR I=1 TO NC: LET S(I)=0:
NEXT I
3100 RANDOMIZE
3150 FOR I=1 TO NC
3200 LET Q=INT (RND*NC)+1: IF S(
Q)<>0 THEN GO TO 3200
3250 LET S(Q)=I
3300 NEXT I
3350 FOR I=1 TO NW: LET Q(I)=0:
LET U(I)=0: NEXT I
3400 FOR I=1 TO NW-1
3402 LET J=I
```

...continued next issue.

VSUG

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